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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/807,667

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Hang Joon Chee

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EXAMINER

MCCRAW, BARRY CLAYTON

ART UNIT

PAPER NUMBER

3744

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/807,667

Applicant(s)

CHEE ET AL.

Examiner

B. Clayton McCraw

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/29/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 2 and 10 are objected to because of the following informalities: In claim 2, line 2, "inlets" should be --inlet--. In claim 10, line 2, "conditionerd" should be --conditioned--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 1 recites the limitations "said incoming air" in line 7, "the outlet stream of air" in line 9, and "said evaporatively cooled air stream" in line 11. Claim 10 recites the limitations "said first channel openings" in line 7, "said first channel outlets" in line 8, and "the outlet flow of air" in line 16. Claim 11 recites "the air conditioned space" in line 2. Claim 19 recites "said outlet" in line 2. There is insufficient antecedent basis for these limitations in the claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 1, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilkinson (US 4,905,479) in view of Huh et al. (US 2002/0134094 A1). Wilkinson discloses an air-conditioner unit comprising a housing (Figure 3) having at least one air inlet (14) for receiving air to be conditioned, at least one outlet (11) for discharging air into a room, at least one fan (30 and 42) for moving air from said inlet to said outlet, an air to air heat exchanger (40) to cool said air through evaporative means, a water tank (21) for supplying water to the air to air heat exchanger, a plurality of sprayers (38; corresponding to the claimed wicking members) located within airflow channels; and a vapor compression-type cooling system (12) having an evaporator coil (18), and a condenser coil (19). Wilkinson does not disclose a control system that at least determines the temperature of the room air and controls the operation of the air-conditioner to turn on the extra vapor compression system when the air temperature is above a pre-determined level, running the air to air exchanger for the remainder of the time. Huh et al. explicitly teach controls that turn on extra compressors when the air

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temperature is above a pre-determined level (paragraph 0019). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the air-conditioner as taught by Wilkinson with the controls determining the temperature of the room as taught by Huh et al., as this is a necessary function of a standard air-conditioner, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the air-conditioner as taught by Wilkinson with the controller turning on the extra vapor compression system as to increase operating efficiency.

Allowable Subject Matter

8. Claims 2-5, 7, 9, and 10-20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Goth et al. (US 6,698,218 B2) discloses a method for controlling multiple refrigeration units; Dinh (US 4,827,733) discloses an indirect evaporative cooling system; Forkosh et al. (US 6,494,053 B1) discloses a dehumidifier and air-conditioning system; Nosaka (US 6,945,061 B2) discloses a control unit for variable displacement compressors; Wilkinson (US 5,022,241) discloses a hybrid air-conditioning system; and Viegas et al. (US 6,751,966 B2) discloses a hybrid temperature control system.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to B. Clayton McCraw whose telephone number is (571) 272-3665. The examiner can normally be reached on M-F 8:30AM-5:00PM.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



BCM
10/26/2005



MELBA N. BUMGARNER
PRIMARY EXAMINER